

processing;

FIG. 8 is a diagram indicating more specifically the viewing point conversion processing by the image data processing unit, in which a positional relation between  
5    respective element holographic images and respective element parallax images is described; and

FIG. 9 is a diagram indicating the viewing point conversion processing by means of the image data processing unit more in detail, in which a state of a  
10    particular element holographic image taken from those in FIG. 8 and reconstructed is shown.

#### **Description of the Preferred Embodiment**

A preferred embodiment of the present invention will  
15    be described in detail by referring to the accompanying drawings in the following.

This preferred embodiment of the present invention pertains to a holographic stereogram producing device 10 that produces a holographic stereogram by exposing and  
20    recording a plurality of holographic stereogram images on a holographic recording medium on the basis of a string of a plurality of parallax images as shown in FIG. 1. In this holographic stereogram producing device 10, for producing a holographic stereogram on the basis of a  
25    parallax image string obtained from captured images of an object by an image capture device 1 and/or created by a computer 2 for generating graphic data, various parameters indicative of time and/or spatial information which becomes necessary at the time of image capturing  
30    and/or at the time of creating image data are controlled in batch in a storage server 3 and/or in a recording

medium (not shown) as the time spatial parameter and is used in forming the parallax image string.

The holographic stereogram producing device 10 is comprised of: an image data processing unit 11 for  
5 processing image data to be exposed and recorded; a controller 12 having a control computer 13 for controlling the holographic stereogram producing device 10 on the whole; and a holographic stereogram producing unit 14 including an optical system 15 for use in forming  
10 the holographic stereogram.

The image data processing unit 11, which has an image processing computer 16 and a memory device 17, forms a parallax image string D3 on the basis of captured image data D1 containing parallax information and/or  
15 computer graphics data D2 or the like.

By way of example, captured image data D1 are, for example, motion image data or a plurality of 2-dimensional still images which are supplied from the image capture device 1, which captures images  
20 simultaneously using a multiple-lens camera or continuously using a moving camera, for example, to the storage server 3 through which further to be supplied, and/or motion image data or a plurality of 2-dimensional still images which are supplied from the image capture  
25 device 1 as recorded in a recording medium (not shown) to be described later, wherein parallax information is contained between respective image data which constitute the captured image data D1. Further, computer graphics data D2 are, for example, motion image data or a  
30 plurality of 2-dimensional still images, which are generated by the graphic data generating computer 2 as

CAD (Computer Aided Design) or CG (Computer Graphics) data, and supplied to the storage server 3, through which further to be supplied, and/or motion image data or a plurality of 2-dimensional still image data supplied from the graphics data generating computer 2 as recorded in a recording medium (not shown) to be described later, wherein parallax information is contained between respective image data that constitute the computer graphics data D2.

The image processing unit 11 processes a parallax image data string D3 which is based on the captured image data D1 and/or the computer graphics data D2 with a predetermined image processing for the holographic stereogram by means of the image processing computer 16 so as to generate a hologram image data D4. At this time, the image processing unit 11 performs an image processing such as a viewing point conversion processing or a synthesizing processing (not shown) to be described later on the parallax image data string D3, on the basis of a time spatial parameter TSP supplied from the storage server 3 and/or a time spatial parameter TSP recorded in a recording medium (not shown) to be described later, so as to generate a hologram image data D4. This hologram image data D4 is temporarily stored in a storage device 17 such as a memory, a hard disc device or the like. The image data processing unit 11, as will be described later, reads out an element hologram image data D5 per one frame of image from the hologram image data D4 stored in memory device 17 for use at the time of exposing and recording element hologram images on a hologram recording medium 4, and supplies this element hologram image data D5 to the